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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,637	03/31/2000	PAUL S. BRADLEY	1018.085US1	1780

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11/06/2003

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EXAMINER

LIANG, GWEN

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 11/06/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/540,637	Applicant(s) BRADLEY ET AL.	
	Examiner GWEN LIANG	Art Unit 2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-14, 16-18, 20-22 and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-14, 16-18, 20-22 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. This action is responsive to communications: Amendment C, filed on 09/23/2003.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed limitations "probability model" and "essentially complete group" are not defined in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 10-14, 16-17, 20-21 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for Collaborative Filtering), and further in view of Post et al., "Post" (WO Patent No. 98/02835).

With respect to claim 1, Breeese discloses a method comprising:

consolidating data organized into records and items, such that each record has a value for each item, into a plurality of groups (See for example: Section 2.1 Memory-Based Algorithms, wherein the user database consists of a set of votes $V_{i,j}$, corresponding to the vote for user i on item j ; therefore it is obvious that the data is organization into records (corresponding to users) and items and each record has a value (e.g. vote) for each item; Section 2.3.1 Cluster Models, paragraph 1, wherein the prediction is derived from a database of user votes from a sample or population of other users, which illustrates the existence of plurality of groups in the database.)

based on the plurality of groups, determining a predicted vote for a particular record and a particular item using a similarity scoring, approach (See for example: Section 1. Introduction, paragraph 1, wherein the preference patterns of other users who have similar interests are used to find content of interest to a user; Section 2. Collaborative filtering Algorithms, paragraph 1; Section 2.1 Memory-Based Algorithms.); and,

outputting the predicted vote for the particular record and the particular item (See for example: Section 3.1 Evaluation Criteria paragraphs 1-3, wherein each piece of content has an associated estimated rating,, and the user interface displays this estimate.)

However Breeese does not explicitly teach "an approach that reflects likelihood similarity between at least one probability model that characterizes an essentially complete group of the plurality of groups and the particular record".

Post teaches an approach that reflects likelihood similarity between at least one probability model that characterizes an essentially complete group of the plurality of groups and the particular record (See for example: page 40 lines 14-19, wherein the products will not be compared to the individual based on the individual's characteristics and preferences; the products will be compared to the individual based on the individual's assigned group. For example, if the product is appropriate for the individual's group, then it will be accepted for the individual. It is obvious that the predicted vote is based on the likelihood similarity between a particular record (i.e. an individual) and a group to which this individual is assigned.)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate an approach that reflects likelihood similarity between at least one probability model that characterizes an essentially complete group of the plurality of groups and the particular record as disclosed in Post into the similarity scoring, approach as taught in Breeese. One advantage of using a grouping system is that the product recommendations could be recommended for a whole group through some mass media, such as magazines, television or newspapers. This would allow for the efficient delivery of personalized recommendation (See for example: page 40 lines 19-23). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein consolidating the data into the plurality

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of groups comprises consolidating the data into a plurality of clusters (See for example: Section 2.3.1 Cluster Models, paragraph 1).

Claim 3 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein consolidating the data into the plurality of groups comprises consolidating the data into a plurality of descriptors (See for example: Section 2.2.1 Default Voting, paragraph 3; Section 3.1 Evaluation Criteria, paragraphs 6 and 7; Section 3.2 Datasets, paragraph 3).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record is referred to as at least one of: a row, and a user (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1 Memory-Based Algorithms; Section 2.1.2 Vector Similarity).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each item is referred to as at least one of: a column, and a dimension (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1 Memory-Based Algorithms).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record comprises a user, and each item comprises a product, such that determining the predicted vote for the particular record and the particular item comprises determining whether a particular user will purchase a particular product (See for example: Abstract, paragraph 1; Section 2 Collaborative Filtering Algorithms, paragraph 1).

Claims 10 and 11, 13, 14 are rejected on grounds corresponding to the reasons given above for claims 1, 4, 5.

Claim 12 is rejected on grounds corresponding to the reasons given above for claims 2 and 3.

Claim 16 is rejected on grounds corresponding to the reasons given above for claim 1. Furthermore the "clusters"-in claim 16 are regarded as equivalent to "groups" in claim 1.

Claim 20 is rejected for the reasons set forth hereinabove for claim 16 and furthermore Post teaches a method wherein a predicted vote is based on descriptors instead of clusters (See for example: page 41 lines 6-10, wherein it is obvious that each category or group has to have an existing descriptor in order to fit the individual within one previously defined category or grouping.).

Claims 17, 21 are rejected on grounds corresponding to the reasons given above for claim 6.

Claim 24 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Post teaches a method wherein the particular record is contained within the records that are organized into groups and wherein a probability that a given group contains the particular record is used to reflect likelihood similarity (See for example: page 40 lines 1-5).

Claims 25-27 are rejected on grounds corresponding to the reasons given above for claim 24.

Claim 28 is rejected on grounds corresponding to the reasons given above for claim 1.

5. Claims 7, 18, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for Collaborative Filtering), further in view of Post et al., "Post" (WO Patent No. 98/02835), and further in view of Lashkari et al., "Lashkari" (EP Patent No. 0,751,471).

Claim 7 is rejected for the reasons set forth hereinabove for claim 1. However the combination of Breeese and Post does not explicitly teach "a method wherein each record comprises a user, and each item comprises a web page".

Lashkari teaches a method wherein each record comprises a user, and each item comprises a web page, such that determining the predicted vote for the particular record and the particular item comprises determining whether a particular user will view a particular web page (See for example: page 5 lines 14-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to store a web page as disclosed in Post into each record as an item in the similarity scoring, approach as taught in the combination of Breeese and Post so that World Wide Web pages may be included in one type of items to be recommended to a user (See for example: page 5 lines 14-15). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claims 18, 22 are rejected on grounds corresponding to the reasons given above for claim 7.

Response to Arguments

6. Applicant's arguments regarding the pending claims are moot based on the new grounds of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.
27 October 2003


SHAHID ALAM
PRIMARY EXAMINER